What Is Claimed Is:

1. A method of shortening a portion of the perimeter of a patient's mitral heart valve comprising:

introducing a first anchor structure via at least a portion of the coronary sinus of the patient's heart and securing the first anchor structure to the patient's tissue;

introducing a second anchor structure into the patient and securing the second anchor structure to the patient's tissue at a location that is in communication with the first anchor structure;

providing a linking structure between the first and second anchor structures; and

shortening the linking structure to reduce distance between the first and second anchor structures.

2. The method defined in claim 1 wherein all of the introducing, providing, and shortening are performed percutaneously.

3. The method defined in claim 1 wherein the linking structure includes first and second flexible members extending respectively from the first and second anchor structures, and a securing structure in engagement with the flexible members and movable along at least one of the flexible members, and wherein the shortening comprises:

moving the securing structure along the at least one of the flexible members toward the anchor structure from which that flexible member extends.

4. The method defined in claim 3 further comprising:

causing the securing structure to non-movably engage both of the flexible members after the moving has been performed to a desired degree.

5. The method defined in claim 4 further comprising:

causing the securing structure to again movably engage at least one of the flexible members if it is desired to again move the securing structure opposite to the moving.

6. The method defined in clam 1 wherein the linking structure includes a ratchet connection between the first and second anchor structures, the ratchet structure permitting movement of the first and second anchor structures toward one another, but resisting movement of the first and second anchor structure away from one another, and wherein the shortening comprises:

moving the first and second anchor structures toward one another with the ratchet structure in operation to resist opposite movement of the first and second anchor structures.

7. The method defined in claim 6 wherein the ratchet structure is selectively releasable to permit movement of the first and second anchor structures away from one another, and wherein the method further comprises:

releasing the ratchet structure if it is desired to permit the first and second anchor members to move away from one another.

8. The method defined in claim 1 wherein the securing the first anchor structure disposes the first anchor structure on a first side of an average

level of the mitral annulus, and wherein the securing of the second anchor structure disposes the second anchor structure on a second side of an average level of the mitral annulus.

9. The method defined in claim 1 wherein the securing the first anchor structure disposes the first anchor structure adjacent the P3/P2 junction of the mitral valve.

10. The method defined in claim 9 wherein the securing the second anchor structure disposes the second anchor structure in the right atrium.

11. The method defined in claim 10 wherein the securing the second anchor structure disposes the second anchor adjacent the ostium of the coronary sinus.

12. The method defined in claim 1 wherein the securing the first anchor structure disposes the first anchor structure adjacent the P1/P2 junction of the mitral valve.

13. The method defined in claim 12 wherein the securing the second anchor structure disposes the second anchor structure adjacent the P3/P2 junction of the mitral valve.

14. The method defined in claim 1 wherein the securing the first anchor structure disposes the first anchor structure distal of the P1/P2 junction of the mitral valve.

15. The method defined in claim 14 wherein the securing the second anchor structure disposes the

second anchor structure proximal the first anchor structure and on a same side of the point at which the circumflex artery crosses the coronary sinus as the first anchor structure.

16. The method defined in claim 15 wherein the securing the first anchor structure disposes the first anchor structure distal the point at which the circumflex artery crosses the coronary sinus.

17. The method defined in claim 15 wherein the securing the first anchor structure disposes the first anchor structure proximal the point at which the circumflex artery crosses the coronary sinus.

18. The method defined in claim 1 wherein the providing includes:

disposing at least a portion of the linking structure in the coronary sinus.

19. The method defined in claim 1 wherein the securing the first anchor structure comprises:

enlarging the first anchor structure so that it substantially annularly engages a surrounding annulus of tissue.

20. The method defined in claim 1 wherein the securing the second anchor structure comprises:

enlarging the second anchor structure so that it substantially annularly engages a surrounding annulus of tissue.

21. The method defined in claim 1 wherein the securing the first anchor structure comprises:

causing a portion of the first anchor structure to penetrate tissue.

22. The method defined in claim 1 wherein the securing the second anchor structure comprises:

causing a portion of the second anchor structure to penetrate tissue.

23. Apparatus for use in shortening a portion of the perimeter of a patient's mitral heart valve comprising:

a first anchor structure adapted for percutaneous introduction via at least a portion of the coronary sinus of the patient's heart and for securement to the patient's tissue;

a second anchor structure adapted for percutaneous introduction into the patient and for securement to the patient's tissue at a location that is in communication with the first anchor structure; and

a linking structure adapted to extend between the first and second anchor structures, the linking structure being of adjustable length whereby a distance between locations at which the first and second anchor structures are secured to the patient's tissue can be reduced.

24. The apparatus defined in claim 23 further comprising:

means adapted for percutaneous introduction of the first anchor structure into the coronary sinus of the patient's heart.

25. The apparatus defined in claim 24 further comprising:

means adapted for percutaneous operation of the first anchor structure to secure it to the patient's tissue.

26. The apparatus defined in claim 23 further comprising:

means adapted for percutaneous introduction of the second anchor structure into the patient.

27. The apparatus defined in claim 26 further comprising:

means adapted for percutaneous operation of the second anchor structure to secure it to the patient's tissue.

28. The apparatus defined in claim 23 further comprising:

means for percutaneously operating the linking structure to adjust its length.

29. The apparatus defined in claim 23 wherein the linking structure is selectively engageable to hold a desired length after a length adjustment.

30. The apparatus defined in claim 29 wherein the linking structure is also selectively releasable after engagement to permit further adjustment to a new desired length, which may be greater than the first-mentioned desired length.

31. The apparatus defined in claim 23 wherein the first anchor structure includes a portion that is adapted for enlargement to substantially annularly engage a surrounding tissue annulus.

32. The apparatus defined in claim 23 wherein the second anchor structure includes a portion that is adapted for enlargement to substantially annularly engage a surrounding tissue annulus.

33. The apparatus defined in claim 23 wherein the first anchor structure includes a portion that is adapted to penetrate tissue.

34. The apparatus defined in claim 23 wherein the second anchor structure includes a portion that is adapted to penetrate tissue.

35. The apparatus defined in claim 33 wherein the portion is adapted for threading into tissue.

36. The apparatus defined in claim 34 wherein the portion is adapted for threading into tissue.

37. The apparatus defined in claim 23 wherein the linking structure comprises:

first and second flexible members respectively extending from the first and second anchor structures.

38. The apparatus defined in claim 37 wherein the linking structure further comprises:

an engagement structure adapted to engage the first and second flexible members and to move along at least one of the first and second flexible members.

39. The apparatus defined in claim 38 wherein the engagement structure is adapted to move along the at least one of the flexible members toward the anchor structure from which that flexible member extends and to resist oppositely directed movement along that flexible member.

40. The apparatus defined in claim 39 wherein the engagement structure is adapted for selective operation to not resist the oppositely directed movement.

41. The apparatus defined in claim 23 wherein the linking structure comprises:

first and second complimentary and interengageable ratchet structures on the first and second anchor structures, respectively.

42. The apparatus defined in claim 41 wherein the ratchet structures are configured to allow movement of the first and second support structures toward one another, but to resist oppositely directed movement.

43. The apparatus defined in claim 42 wherein the ratchet structures are adapted for selective operation not to resist the oppositely directed movement.

44. Apparatus for remodeling relatively soft body tissue of a patient comprising:

first and second anchor structures adapted for implanting at respective first and second spaced locations in the body tissue; and

linking structure extending between the first and second anchor structures and having a length between the first and second anchor structures that is adjustable after the first and second anchor structures have been implanted to allow adjustment of spacing between the first and second anchor structures.

45. The apparatus defined in claim 44 wherein at least one of the anchor structures comprises:

a helical structure.

46. The apparatus defined in claim 45 wherein the helical structure has a central longitudinal axis about which the helical structure is adapted for rotation to thread the helical structure into the body tissue.

47. The apparatus defined in claim 46 wherein the helical structure includes at least one barb extending from the helical structure and inclined backwardly relative to a direction in which the helical structure is rotated to thread it into the body tissue, whereby the barb resists unthreading the helical structure from the body tissue.

48. The apparatus defined in claim 44 wherein the body tissue includes a lumen, and wherein at least one of the anchor structures includes a substantially annular structure configured for disposition substantially concentrically in the lumen.

49. The apparatus defined in claim 48 wherein the annular structure includes at least one projection for penetrating a wall of the lumen.

50. The apparatus defined in claim 44 wherein at least one of the anchor structures comprises:

a first portion configured for lying on a surface of the body tissue; and

a second portion inclined relative to the first portion and configured for penetrating the body tissue below the surface.

51. The apparatus defined in claim 50 wherein the at least one anchor structure is the first anchor structure, and wherein the first and second portions form an acute angle whose apex points generally away from the second anchor structure in use.

52. The apparatus defined in claim 50 wherein the second portion includes at least one barb extending from the second portion and inclined backwardly relative to a direction in which the second portion is penetrated into the body tissue, whereby the barb resists withdrawing the second portion from the body tissue.

53. The apparatus defined in claim 50 wherein the body tissue includes a lumen, and wherein the first portion includes a substantially annular structure configured for disposition substantially concentrically in the lumen.

54. The apparatus defined in claim 44 wherein at least one of the anchor structures comprises:

first and second portions that are movable relative to one another so that they can both

penetrate the body tissue while the first and second portions are substantially aligned with one another, after which the second portion becomes transverse to the first portion to resist withdrawal of the anchor structure from the body tissue.

55. The apparatus defined in claim 54 wherein the first portion is long enough to permit the second portion to pass completely through the body tissue so that the second portion becomes transverse to the first portion adjacent a surface of the body tissue that is remote from where the anchor structure entered the body tissue.

56. The apparatus defined in claim 45 wherein the at least one anchor structure further comprises:

a further anchor structure that is insertable into the helical structure.

57. The apparatus defined in claim 56 wherein the further anchor structure comprises:

first and second portions that are movable relative to one another so that they can both penetrate the body tissue while the first and second potions are substantially aligned with one another, after which the second portion become transverse to the first portion to resist withdrawal of the further anchor structure from the body tissue.

58. The apparatus defined in claim 57 wherein the at least one of the anchor structures further comprises:

interconnection structure selectively inter-engageable between the helical structure and the

further anchor structure to allow the further anchor structure to compress the helical structure in use.

59. The apparatus defined in claim 44 wherein the linking structure is configured to allow shortening of the distance between the first and second anchor structures and to resist reversal of any such shortening.

60. The apparatus defined in claim 59 wherein the linking structure is selectively operable to permit reversal of the shortening.

61. The apparatus defined in claim 44 wherein the linking structure comprises:

a flexible member extending from at least one of the anchor structures.

62. The apparatus defined in claim 44 wherein the linking structure comprises:

first and second flexible members extending from the first and second anchor structures, respectively; and

a cinching structure engageable with the first and second flexible members.

63. The apparatus defined in claim 62 wherein the cinching structure is configured to allow at least one of the flexible members to move through the cinching structure in a first direction but not in an opposite second direction.

64. The apparatus defined in claim 63 further comprising:

instrumentation for severing the first and second members adjacent a side of the cinching structure that is remote from the first and second anchor structures along the first and second flexible members.

65. The apparatus defined in claim 44 wherein the linking structure comprises:

a ratcheting structure.

66. The apparatus defined in claim 65 wherein the ratcheting structure is configured to allow the first and second anchor structures to move toward one another but to resist movement of the first and second structures away from one another.

67. The apparatus defined in claim 66 wherein the ratcheting structure is selectively operable to allow movement of the first and second structures away from one another.

68. The apparatus defined in claim 44 further comprising:

instrumentation for implanting at least one of the anchor structures in the body tissue.

69. The apparatus defined in claim 68 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for implanting the at least one anchor structure at least partly through a body conduit lumen of the patient.

70. The apparatus defined in claim 68 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for

implanting the at least one anchor structure percutaneously.

71. The apparatus defined in claim 68 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for implanting the at least one anchor structure at least partly via the circulatory system conduits of the patient.

72. The apparatus defined in claim 44 further comprising:

instrumentation for operating the linking structure.

73. The apparatus defined in claim 72 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for operating the linking structure at least partly through a body conduit lumen of the patient.

74. The apparatus defined in claim 72 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for operating the linking structure percutaneously.

75. The apparatus defined in claim 72 wherein the body tissue is internal to the patient, and wherein the instrumentation is configured for operating the linking structure at least partly via the circulatory system conduits of the patient.

76. Apparatus for remodeling the annulus of a patient's mitral valve comprising:

first instrumentation for implanting a first anchor structure in the patient's coronary sinus;

second instrumentation for implanting a second anchor structure in the patient's right atrium; and

third instrumentation for employing linking structure between the first and second anchor structures to shorten the distance between those structures.

77. The apparatus defined in claim 76 wherein at least one of the first, second, and third instrumentations is configured for percutaneous use.

78. The apparatus defined in claim 76 wherein all of the first, second, and third instrumentations are configured for percutaneous use.

79. A method of implanting a structure in body tissue that includes an elongated, laterally curved, body tissue conduit comprising:

providing delivery instrumentation having an elongated portion that is laterally curved to approximately correspond to lateral curvature of the body tissue conduit; and

inserting the delivery instrumentation substantially coaxially into the body tissue conduit so that the lateral curvature of the delivery instrumentation causes the delivery instrumentation to angularly orient itself relative to the body tissue conduit to superimpose the lateral curvature of the delivery instrumentation and the body tissue conduit on one another.

80. The method defined in claim 81 further comprising:

dispensing the structure from the delivery instrumentation with a predetermined angular orientation relative to the lateral curvature of the delivery instrumentation.

81. Apparatus for implanting a structure in a laterally curved, elongated, body tissue conduit comprising:

elongated delivery instrumentation adapted to be received substantially coaxially in the conduit, the delivery instrumentation having lateral curvature corresponding to the lateral curvature of the conduit so that the delivery instrumentation tends to orient itself angularly about its longitudinal axis with its curvature substantially following the curvature of the conduit, the delivery instrumentation being adapted to deliver the structure into the conduit with a predetermined angular orientation about a longitudinal axis of the delivery instrumentation.

82. The apparatus defined in claim 81 wherein the delivery instrumentation is laterally flexible.

83. The apparatus defined in claim 81 wherein the lateral curvature is in a relatively distal portion of the delivery instrumentation, and wherein a more proximal portion of the delivery instrumentation has additional lateral curvature for facilitating entry of the distal portion into the body tissue conduit.

84. The apparatus defined in claim 83 wherein the lateral curvature is compound with the additional lateral curvature.

85. Apparatus for use with a laterally curved, elongated body tissue conduit comprising:

elongated instrumentation adapted to be received substantially coaxially in the conduit, the instrumentation having lateral curvature corresponding to the lateral curvature of the conduit so that the instrumentation tends to orient itself angularly about its longitudinal axis with its curvature substantially following the curvature of the conduit.

86. The apparatus defined in claim 85 wherein the instrumentation includes means for delivering an implant with a predetermined angular relationship to the lateral curvature of the instrumentation.

87. The apparatus defined in claim 86 wherein the means for delivering delivers the implant into the conduit.

88. The apparatus defined in claim 86 wherein the means for delivering delivers the implant at a location outside the conduit.

89. Apparatus for remodeling a patient's left ventricle comprising:

first instrumentation for implanting a first anchor structure at a first location in the patient's left ventricle;

second instrumentation for implanting a second anchor structure at a second location in the patient's left ventricle spaced from the first location; and

third instrumentation for employing linking structure between the first and second anchor structures to decrease spacing between the first and second anchor structures.

90. The apparatus defined in claim 89 wherein at least one of the first, second, and third instrumentations is configured for percutaneous use.

91. The apparatus defined in claim 89 wherein all of the first, second, and third instrumentations are configured for percutaneous use.

92. A method of remodeling relatively soft body tissue of a patient comprising:

implanting first and second anchor structures at respective first and second spaced locations in the body tissue; and

using a linking structure between the first and second anchor structures to change the spacing between the first and second anchor structures.

93. The method defined in claim 92 wherein the body tissue is the mitral valve annulus of the patient, and wherein at least one of the anchor structures is implanted via the coronary sinus of the patient.

94. The method defined in claim 93 wherein one of the anchor structures is implanted via the

coronary sinus, and the other of the anchor structures is implanted in the patient's right atrium.

95. The method defined in claim 92 wherein the body tissue is the left ventricle of the patient, and wherein the first and second anchor structures are implanted in the left ventricle.